AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A method of controlling ~~drive~~ the driving of a function liquid droplet ejection head having disposed therein a plurality of nozzle arrays with a different function liquid droplet ejection amount per unit nozzle,

wherein, in one print cycle, ~~drive~~ driving of the plurality of nozzle arrays is controlled by using a single drive signal having a plurality of ejection pulses corresponding to the plurality of nozzle arrays.

2. (Original) The method according to claim 1, wherein the plurality of ejection pulses have waveforms which are different from each other in accordance with specifications of corresponding nozzle arrays.

3. (Currently Amended) The method according to claim 1, wherein ~~drive~~ driving of the plurality of nozzle arrays is controlled by using an identical ejection pulse in case of performing flushing which is function recovery processing by waste discharging of liquid droplets from all nozzles.

4. (Original) The method according to claim 1, wherein the drive signal has a micro oscillation pulse which subjects a function liquid to form a meniscus of each nozzle to micro oscillation, and wherein only one waveform of the micro oscillation pulse is inputted in said one print cycle.

5. (Original) The method according to claim 4, wherein the micro oscillation pulse is inputted before input of the plurality of ejection pulses in said one print cycle.

6. (Original) The method according to claim 1, wherein the drive signal has a damping pulse for damping residual oscillation of a pressure generating element which generates pressure fluctuations in a cavity communicated with each nozzle, and wherein, in said one print cycle, the damping pulse is inputted after input of the plurality of ejection pulses and has a waveform corresponding to a waveform of the last inputted ejection pulse.

7. (Original) The method according to claim 1, wherein the plurality of nozzle arrays include a first nozzle array which ejects a first function liquid droplet ejection amount and a second nozzle array which ejects a second function liquid droplet ejection amount which is smaller than the first function liquid droplet ejection amount, and wherein a number of nozzles in the second nozzle array is two times the number of nozzles in the first nozzle array.

8. (Currently Amended) A function liquid droplet ejection apparatus ~~which selectively ejects function liquid droplets while performing a relative movement between a function liquid droplet ejection head into which a function liquid is introduced and a workpiece, the apparatus~~ comprising:

~~the~~ a function liquid droplet ejection head having ~~disposed therein~~ a function liquid disposed therein and a plurality of nozzle arrays with a different function liquid droplet ejection amount per unit nozzle, the function liquid droplet ejection head being movable relative to a workpiece; and

control means for controlling ~~drive~~ the driving of the plurality of nozzle arrays by using a single drive signal,

wherein the drive signal has a plurality of ejection pulses corresponding to the plurality of nozzle arrays in one print cycle.

9. (Original) The apparatus according to claim 8, wherein the plurality of ejection pulses have waveforms which are different from each other in accordance with specifications of corresponding nozzle arrays.

10. (Currently Amended) The apparatus according to claim 8, wherein said control means controls the plurality of nozzle arrays by using an identical ejection pulse ~~in case of performing flushing which is function recovery processing by waste~~to flush the nozzles by discharging ~~of~~ liquid droplets from ~~all~~ each nozzle[[s]].

11. (Original) An electro-optic device manufactured by using the function liquid droplet ejection apparatus according to claim 8.

12. (Currently Amended) A method of manufacturing a liquid crystal display device, in which a multiplicity of filter elements are formed on a color filter substrate by using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing filter materials of respective colors into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the filter materials~~, whereby~~ and form the multiplicity of the filter elements ~~are formed~~.

13. (Currently Amended) A method of manufacturing an organic EL device, in which an EL layer is formed in each of a multiplicity of picture element pixels on a substrate by using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing luminescent materials of respective colors into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the luminescent materials~~, whereby~~ and form the multiplicity of EL layers ~~are formed~~.

14. (Currently Amended) A method of manufacturing an electron emission device, in which a multiplicity of phosphors are formed on electrodes by using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing fluorescent materials of respective colors into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the electrodes to selectively eject the fluorescent materials~~, whereby~~ and form the multiplicity of phosphors ~~are formed~~ on the electrodes.

15. (Currently Amended) A method of manufacturing a PDP device, in which phosphors are formed in each of a multiplicity of concave portions on a rear substrate by using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing fluorescent materials of respective colors into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the rear substrate to selectively eject the fluorescent materials~~, whereby~~ and form the phosphors in each of the multiplicity of concave portions on the rear substrate~~multiplicity of the phosphors are formed~~.

16. (Currently Amended) A method of manufacturing an electrophoretic display device, in which migrating bodies are formed in each of a multiplicity of concave

portions on electrodes by using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing migrating body materials of respective colors into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the electrodes to selectively eject the migrating body materials~~, whereby~~ and form the multiplicity of the migrating bodies ~~are formed~~ in each of the concave portions on the electrodes.

17. (Currently Amended) A method of manufacturing a color filter, in which a color filter having disposed therein a multiplicity of filter elements is manufactured by using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing filter materials of respective colors in the function liquid droplet ejection head; and

~~peforming~~performing a relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the filter materials~~, whereby~~ and form the multiplicity of the filter elements ~~are formed~~.

18. (Currently Amended) The method according to claim 17, ~~wherein an overcoat film which covers the multiplicity of filter elements is formed, said method further comprising the steps of:~~further comprising

introducing~~, after the filter elements are formed,~~ a translucent coating material into the function liquid droplet ejection head after the filter elements are formed; and

performing relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the coating material~~, whereby~~ and form ~~the~~ an overcoat film that covers the multiplicity of filter elements ~~is formed~~.

19. (Currently Amended) A method of manufacturing an organic EL ~~in which~~having a multiplicity of picture element pixels inclusive of EL layers ~~are~~ arranged on a substrate~~, by~~ using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing luminescent materials of respective colors into the function liquid droplet ejection head; and

performing relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the luminescent materials~~, whereby~~ and form the multiplicity of EL layers ~~are formed~~.

20. (Currently Amended) The method according to claim 19, wherein a multiplicity of pixel electrodes corresponding to the EL layers are formed between the multiplicity of EL layers and the substrate, said method further comprising the steps of:

introducing a liquid electrode material into the function liquid droplet ejection head; and

performing relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the liquid electrode material~~, whereby~~ and form a multiplicity of the pixel electrodes ~~are formed~~.

21. (Currently Amended) The method according to claim 20, wherein a counter electrode is formed so as to cover the multiplicity EL layers, said method further comprising the steps of:

introducing, after the EL layers are formed, the liquid electrode material into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the liquid electrode material~~, whereby~~ and form the counter electrode ~~is formed~~.

22. (Currently Amended) A method of forming a spacer~~, in which~~ having a multiplicity of particulate spacers ~~are formed to~~that constitute a minute cell gap between two substrates~~, by~~ using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing a particle material constituting the spacers into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and at least one of the substrates to selectively eject the particle material~~, whereby~~ and form the spacers ~~are formed~~ on the substrate.

23. (Currently Amended) A method of forming a metallic wiring on a substrate by using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing a liquid metal material into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the liquid metal material~~, whereby~~ and form the metallic wiring ~~is formed~~.

24. (Currently Amended) A method of forming a lens~~, in which~~ having a multiplicity of microlenses disposed ~~are formed~~ on a substrate~~, by~~ using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing a lens material into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the lens material~~, whereby~~ and form the multiplicity of microlenses ~~are formed~~.

25. (Currently Amended) A method of manufacturing a resist of an arbitrary shape on a substrate by using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing a resist material into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the resist material~~, whereby~~ and form the resist ~~is formed~~.

26. (Currently Amended) A method of forming a light diffusion body~~, in which~~ having a multiplicity of light diffusion bodies ~~are~~ formed on a substrate~~, by~~ using the function liquid droplet ejection apparatus according to claim 8, the method comprising the steps of:

introducing a light diffusion material into the function liquid droplet ejection head; and

performing a relative scanning between the function liquid droplet ejection head and the substrate to selectively eject the light diffusion material~~, whereby~~ and form the multiplicity of light diffusion bodies ~~are formed~~.